



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,584	01/09/2002	Thomas Olinga	MM 4490 (PCT)	5669
1109	7590	01/31/2005	EXAMINER	
ANDERSON, KILL & OLICK, P.C. 1251 AVENUE OF THE AMERICAS NEW YORK,, NY 10020-1182			VIJAYAKUMAR, KALLAMBELLA M	
			ART UNIT	PAPER NUMBER
			1751	
DATE MAILED: 01/31/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/030,584

Applicant(s)

OLINGA ET AL.

Examiner

Kallambella Vijayakumar

Art Unit

1751

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 28 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☒ Claim(s) 25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/18/2004.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

Detailed Action

Applicant's arguments with respect to claims 1-28 have been considered but are moot in view of the new ground(s) of rejection. Claims 1-28 are pending with the application.

The information disclosure statement (IDS) submitted on 10/18/2004 is being considered by the examiner.

Claim Objections

Claim 25 is objected to because of the following informalities: Claim 25 has a decimal error for the content of insulating polymer and this needs to be corrected. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
- The use of phrase “for the manufacture of polyaniline films” in claim-1 and “for the manufacture of a conductor composite material” in claim-2 have not been treated with patentability. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

The examiner construes this language as “Intended Use” and not treated with merits for patentability.

1. Claims 1, 3, 5-7, 9, and 26-28 rejected under 35 U.S.C. 103(a) as being unpatentable over Bajer et al (Synthetic Metals, 1999, 101, 713-714).

Bajer et al disclose doping of PANI with esters of 5-sulfoisophthalic acid in the solid state and the solutions in CHCl₃ and EtOH, wherein the esters included di (n-amyl) <DAE>, di (n-

di(n-decyl) <DDE>, di(butoxy-2-ethyl) <DBEE>, di2(butoxy-2-ethoxy)ethyl <DBEEE> and esters obtained from rocanol. Bajer et al further show the influence of hexafluoro-2-propanol <HFIP> in processing the PANI and the films of PANI (Pg-713, Experimental; Pg-713, Fig-2). Bajer et al further teach the benefits of using Substituted PANI and the varying of the molar ratio of ester to PANI in the range of 0.3-0.4 (Pg-714, Col-2, Para-2).

Bajer et al differ from the applicants wherein the using of ethyl-hexyl esters of the sulfophthalic acid as the dopant for the PANI and forming a coating solution or a film was not taught. But, Bajer et al teach the use of DAE in forming the coating solution of PANI and films of PANI.

It would have been obvious to a person of ordinary skill in the art to substitute sulfophthalic esters with their isomers and homologs as optional alternative dopants for doping PANI/emeraldine, because they are all alkyl esters of sulfophthalic acid wherein the structurally similar species would share similar properties, and with the expectation of reasonable success in obviously arriving at the limitations of the instant claims by the applicants, and this would meet the limitation of the dopants in the instant claims 1, 5-7 and 26-28. HFIP as a solvent would meet the limitation solvents in instant claim-3. The ratio of ester to PANI would meet the limitation of instant claim 9 and the concentration in claim 10 would have been obvious. Compounds, which are, position isomers (compounds having the same radicals in physically different positions on the same nucleus) or homologs (compounds differing regularly by the successive addition of the same chemical group, e.g., by -CH₂- groups) are generally of sufficiently close structural similarity that there is a presumed expectation that such compounds possess similar properties. In re Wilder, 563 F.2d 457, 195USPQ 426 (CCPA 1977).

2. Claims 2, 4, 8, and 10-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bajer et al (Synthetic Metals, 1999, 101, 713-714) as applied to claim 1 above, further in view of Kirmanen et al (US Patent 5,585,040) or Ikkala et al (US Patent 5,783,111) or Wan-Cheung et al (US patent 5,908,898).

The disclosure by Bajer et al on the coating solution and the film/composite is set forth as in Rejection-1 under 35 USC 103(a).

Bajer et al differ from the applicants wherein the use of either a insulating polymer such as PMMA with plasticizer per the claims 2, 19, 20 and 23, or the use of dichloroacetic acid as the solvent per the claims 4, 12, or the concentration of PANI in the solution per the instant claims 10 and 18 are not disclosed.

Kirmanen et al teach the use of dichloroacetic acid as a dopant for emeraldine/PANI that would obviously functional as a solvent/co-solvent, and the use of a plasticizer along with an insulating polymer to aid the mixing of polymers with the benefit of the conductive polymer material to be more useful than without the plasticizer (Col-2, Lines: 30-32; Col-8, Lines: 15-25; Col-14, Lines: 41).

Ikkala et al teach doping of emeraldine/PANI with sulfonic acids in solutions, the compositions further containing insulative matrixes of polymethylmethacrylate (PMMA) and the benefits of added plasticizers. Ikkala et al further disclose the amount of conductive polyanilines to be at concentrations of less than 1% w/w in the composition (Col-3, Lines: 54-67, Col-7, Lines: 45-50). Ikkala et al also teach the amount of a protonic acid added to the polyaniline in the composition to be in the range of 0.1 to 0.6 moles of protonic acid per substituted or unsubstituted protonic acid (Col-13, Lines: 38-44).

Wang-Cheung et al teach the benefits of plasticizers such as diesters of phthalate in the film forming compositions comprising/PANI doped with sulfonic acids with the benefit of superior performance (Col-4, Lines: 1-24).

It would have been obvious to a person of ordinary skill in the art to modify the PANI coating solutions of Bajer et al by substituting sulfophthalic esters with their isomers and homologs as optional alternative dopants because they are all alkyl esters of sulfophthalic acid wherein the structurally similar species would share similar properties, and further optionally substitute the solvent with dichloroacetic acid per the teachings of Kirmanen et al to benefit from improved coatings and conductivity, because Kirmanen et al teach such modifications in the analogous art, and/or optionally vary the ratio of the dopant to PANI in presence of a non-conducting binder, solvent and a plasticizer per the teachings of Ikkala et al to benefit from optimized conductivity and coating solutions because the both teachings are in the analogous art and such modifications are taught by Ikkala, and further optionally improvise the formulation with the teachings of Wang-Cheung by using diphthalates as plasticizers in the coating composition to benefit from the superior adhesion and flexibility of the coated films, because all the teachings and disclosures are in the analogous art, and with the expectation of reasonable success in obviously arriving at the limitations of the instant claims by the applicants. It would be examiners position that even a small amount of polyaniline would meet the limitation of the PANI content and the ratio of the plasticizer to the polymer per the limitation of instant claim 25 would have been obvious.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kallambella Vijayakumar whose telephone number is 571-272-1324. The examiner can normally be reached on M-Th, 07.00 - 16.30 hrs, Alt. Fri: 07.00-15.30 hrs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Yogendra Gupta can be reached on 571-272-1316. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KMV

January 09, 2005.


Mark Kopec
Primary Examiner